

Contact Information

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Education

The Ohio State University, Columbus, OH
Ph.D. Astronomy, Advisor: Prof. B. Scott Gaudi, August 2015

The Ohio State University, Columbus, OH
M.S. Astronomy, Advisor: Prof. B. Scott Gaudi, December 2013

Vanderbilt University, Nashville, TN
B.A. Physics & Astronomy, Summa Cum Laude, High Honors in Astronomy, May 2009

Research Areas

Exoplanet Detection and Characterization
Gravitational Microlensing

Honors and Awards

NASA Postdoctoral Program Fellowship, Jet Propulsion Laboratory, September 2015–present
Distinguished University Fellowship, The Ohio State University (OSU), 2009–2015
National Science Foundation (NSF) Graduate Research Fellowship (GRF), OSU, 2011–2014
NSF Graduate Research Opportunities Worldwide, Taken to South Korea, June–September 2013
NSF GRF Honorable Mention, May 2010, May 2009
Winner, Blair School of Music Collegiate Concerto Competition, Vanderbilt University, April 2007

Professional Service

Member, American Astronomical Society (AAS), 2008–present
Referee, *Astronomical Journal* (AJ), 2016–present
Referee, *Astrophysical Journal* (ApJ), 2016–present
Member, Local Organizing Committee (LOC): 2017 Pasadena Postdoc Retreat, 2016–present
Chair, LOC: 21st International Microlensing Conference, 2016–present
Member, Scientific Organizing Committee for Know Thy Star Conference, 2016–present

First-author Papers

7. *Campaign 9 of the K2 Mission: Observational Parameters, Scientific Drivers, and Community Involvement for a Simultaneous Space- and Ground-based Microlensing Survey*
Henderson, C. B., Poleski, R., Penny, M., and 124 coauthors, 2016, *PASP*, 128, 124401
6. *On the Feasibility of Characterizing Free-floating Planets with Current and Future Space-based Microlensing Surveys*
Henderson, C. B. & Shvartzvald, Y., 2016, *AJ*, 152, 96
5. *Prospects for Characterizing Host Stars of the Planetary System Detections Predicted for the Korean Microlensing Telescope Network*
Henderson, C. B., 2015, *ApJ*, 800, 58

4. *Optimal Survey Strategies and Predicted Planet Yields for the Korean Microlensing Telescope Network*
Henderson, C. B., Gaudi, B. S., Han, C., and 4 coauthors, 2014, ApJ, 794, 52
3. *Candidate Gravitational Microlensing Events for Future Direct Lens Imaging*
Henderson, C. B., Park, H., Sumi, T., and 76 coauthors, 2014, ApJ, 794, 71
2. *Time-series Photometry of Stars in and around the Lagoon Nebula. I. Rotation Periods of 290 Low-mass Pre-main-sequence Stars in NGC 6530*
Henderson, C. B. & Stassun, K. G., 2012, ApJ, 747, 51
1. *An R- and I-band Photometric Variability Survey of the Cygnus OB2 Association*
Henderson, C. B., Stanek, K. Z., Pejcha, O., Prieto, J. L., 2011, ApJS, 194, 27

Proposals

9. Co-I (primary author and science lead): *Preparing for the WFIRST Microlensing Exoplanet Survey: Optimizing the Yield and Enabling Mass Measurements*
Subaru, NASA TAC, 2 half-nights awarded (December 2016)
8. PI: *Measuring Microlens Fluxes to Characterize Lens Systems in Preparation for WFIRST*
Keck II, NASA TAC, 2 half-nights awarded (December 2016)
7. Co-I (primary author and science lead): *Spatially Resolving Microlenses for Direct Flux Measurements: A New Frontier for Lens Characterization*
Keck II, Caltech TAC, 3 half-nights awarded (December 2016)
6. Co-I: *Characterizing Planet and Brown Dwarf Candidates from a Second-Generation Microlensing Survey*
Keck II, NASA TAC, 2 half-nights awarded (June 2016)
5. Co-I: *Preparing for the WFIRST Microlensing Survey: Simulations, Requirements, Survey Strategies, and Precursor Observations*
Selected to comprise WFIRST Microlensing Science Investigation Team (December 2015)
4. PI: *Measuring Microlens Fluxes to Characterize Lens Systems in Preparation for WFIRST*
Keck II, NASA TAC, 2 half-nights awarded (December 2015)
3. Co-I (primary author and science lead): *Confirming Free-floating Planet Candidates Detected with K2*
Keck II, Caltech TAC, 4 target-of-opportunity (ToO) triggers awarded (December 2015)
2. PI: *Confirming Free-floating Planet Candidates Detected with K2*
NASA Infrared Telescope Facility, 29 hours awarded (December 2015)
1. PI: *High-resolution Near-infrared Follow-up of K2 Microlensing Systems*
K2 Cycle 3, selected to be on K2 Campaign 9 Microlensing Science Team (October 2015)

Invited Talks

8. *K2 Campaign 9 Microlensing Experiment*
AAS Meeting #229 (January/2017)
7. *Exoplanetary Microlensing: Playing — and Winning — the Stellar Lottery*
AAS Meeting #229 (January/2017)
6. *Results from and Future Directions for Space-based Microlensing Surveys*
Caltech Infrared Processing and Analysis Center (IPAC; November/2016)
5. *Results from and Future Directions for Ground-based Microlensing Surveys*
IPAC (October/2016)

4. *Campaign 9 of Kepler's Extended K2 Mission: A Simultaneous Space- and Ground-based Microlensing Survey*
Caltech Division of Geological and Planetary Sciences (February/2016)
3. *Campaign 9 of Kepler's Extended K2 Mission: A Simultaneous Space- and Ground-based Microlensing Survey*
Leibniz Institute for Astrophysics Potsdam (January/2016)
2. *The Search for Another Solar System*
Astronomical Society of Kansas City (August/2015)
1. *The Search for Another Solar System*
United States Naval Academy (January/2015)

Observing Experience

Keck II 10.0m

Adaptive Optics (AO) near-infrared (NIR) photometry of microlensing events:
5 half-nights (August/2016)
AO NIR photometry of microlensing events: 2 half-nights (June/2016)

CTIO 1.3m

Optical+NIR photometry of microlensing events: 12 nights (July/2016)
Optical+NIR photometry of microlensing events: 16 nights (June–July/2015)

IRTF 3.0m

Optical+NIR photometry of microlensing events: 29 nights (May–June/2016)

MDM 1.3m

Optical spectroscopy of AGNs: 8 nights (March–April/2014)
Optical spectroscopy of AGNs: 7 nights (April/2012)
Optical spectroscopy of AGNs: 4 nights (November–December/2010)
Optical spectroscopy of AGNs: 7 nights (September/2010)
Optical spectroscopy of photometrically variable stars: 14 nights (June–July/2010)

SAAO 1.0m

Optical photometry of microlensing events: 7 nights (July/2012)
Optical photometry of microlensing events: 15 nights (August/2010)

MDM 2.4m

Optical spectroscopy of photometrically variable stars: 10 nights (July/2011)

CTIO 1.0m

Optical photometry of candidate transiting exoplanets: 7 nights (May–June/2009)
Optical photometry of stellar rotation periods: 14 nights: (June–July/2006)

WIYN 0.9m

Optical photometry of open clusters, 3 nights: (June/2007)

Contributed Talks

20. *Illuminating Free-floating Planet Demographics with Keck AO*
AAS Meeting #229 (January/2017)
19. *K2's Campaign 9: The First Automated Microlensing Survey from the Ground and from Space*
ExSoCal 2016 (September/2016)
18. *Validating Free-floating Planet Candidates with Keck AO*
Keck Science Meeting 2016 (September/2016)
17. *K2's Campaign 9: The First Microlensing Survey from the Ground and from Space*
Exoplanets I (July/2016)
16. *Campaign 9 of K2: A Community-driven Microlensing Experiment*
20th Microlensing Workshop (January/2016)
15. *Using K2 to Find Free-floating Planets*
AAS Meeting #227 (January/2016)
14. *Using K2 to Find Free-floating Planets*
K2 Sci Con (November/2015)
13. *Using K2 to Find Free-floating Planets*
ExSoCal 2015 (September/2015)
12. *The Importance of Near-infrared Observations: Simultaneous with K2's Campaign 9 and High-resolution Follow-up*
K2 Microlensing Campaign Workshop (May/2015)
11. *KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey*
Vanderbilt University (March/2015)
10. *Prospects for Characterizing Host Stars of the Planetary System Detections Predicted for KMTNet*
19th International Conference on Microlensing (January/2015)
9. *KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey*
AAS Meeting #225 (January/2015)
8. *K2 and Spitzer: Paving the Way for WFIRST*
2014 Conference on Wide-field InfraRed Surveys: Science and Techniques (November/2014)
7. *KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey*
IPAC Lunch Seminar (October/2014)
6. *KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey*
JPL/Caltech Astrophysics Luncheon Seminar (October/2014)
5. *KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey*
LCOGT Seminar Series (August/2014)
4. *Predicted Planet Yields for the Korean Microlensing Telescope Network*
Católica-OSU Astrophysics Workshop (May/2014)
3. *Predicted Planet Yields for the Korean Microlensing Telescope Network*
18th International Conference on Microlensing (January/2014)
2. *Enabling an Exoplanet Census with the Korean Microlensing Telescope Network: Optimal Survey Strategies and Predicted Planet Yields*
AAS Meeting #223 (January/2014)
1. *Planet Yields and Optimal Survey Strategies for the Korean Microlensing Telescope Network (KMTNet)*
1st Doha International Astronomy Conference (February/2013)

Astronomy Coffee Briefs [views on YouTube]

4. *Prospects for Characterizing Host Stars of the Planetary System Detections Predicted for the Korean Microlensing Telescope Network*
Henderson, C. B. (2014) *YouTube* [305] (<http://tinyurl.com/ny4l3oe>)
3. *Optimal Survey Strategies and Predicted Planet Yields for the Korean Microlensing Telescope Network*
Henderson, C. B.; et al. (2014) *YouTube* [248] (<http://tinyurl.com/mhnsqtb>)
2. *Candidate Gravitational Microlensing Events for Future Direct Lens Imaging*
Henderson, C. B.; et al. (2014) *YouTube* [337] (<http://tinyurl.com/ndxmt6l>)
1. *Time-series Photometry of Stars in and around the Lagoon Nebula: I. Rotation Periods of 290 Low-mass Pre-main-sequence Stars in NGC 6530*
Henderson, C. B. & Stassun, K. G. (2012) *YouTube* [800] (<http://tinyurl.com/mbdl5ll>)

Poster Presentations

8. *Using K2 to Find Free-floating Planets*
Extreme Solar Systems III (December/2015)
7. *The Korean Microlensing Telescope Network (KMTNet)*
Emerging Researchers in Exoplanet Science Symposium (May/2015)
6. *LGBT Workplace Climate in Astronomy*
AAS Meeting #221 (January/2013)
5. *Realistic Simulations of the Planetary Yields of KMTNet, a Next-generation Microlensing Survey*
AAS Meeting #220 (June/2012)
4. *Realistic Simulations of the Planetary Yields of a Next-generation Microlensing Survey*
The 16th International Conference on Gravitational Microlensing (February/2012)
3. *Pre-Main Sequence Eclipsing Binaries and Stellar Rotation Periods in the Lagoon Nebula*
Cardiff School of Physics and Astronomy Constellation School on Numerical Astrophysics and its Role in Star Formation (January/2009)
2. *The Search for Pre-Main Sequence Eclipsing Binary Stars in the Lagoon Nebula*
AAS Meeting #213 (January/2009)
1. *WIYN Open Cluster Study: UBVRI CCD Photometry of Open Cluster NGC 2506*
AAS Meeting #211 (January/2008)

Service, Outreach, and Diversity

8. *Astronomy on Tap Los Angeles Volunteer and Co-founder*, JPL/Caltech (2016–present)
Give informal talks at a local bar and discussion science topics with the public
7. *Caltech Astronomy Public Lecture Volunteer*, JPL/Caltech (2016–present)
Lead Q&A sessions and discussion panels about science topics with the public
6. *AAS Astronomy Ambassador*, AAS (2013–present)
Encourage, learn about, and disseminate methods of effective communication with the public
5. *Planetarium Presenter*, OSU (2009–2015)
Give dozens of shows to K-12 field trips, scout and church groups, general public, and more
4. *Star Party Volunteer*, OSU (2009–2015)
Use telescopes and field questions during our semi-annual night sky observing events
3. *AAS Working Group on LGBTIQ Equality*, AAS (2012–2015)
Research and promote equality based on sexual orientation and identity expression

2. *Co-leader of Astrophysics Breakfast of Science Champions Site*, OSU (2013–2014)
Bring local public school students to OSU and teach science via hands-on activities
1. *Planetarium Renovation Committee*, OSU (2011–2013)
Researched digital projectors, A/V systems, seating, and dome construction

Additional Publications

32. *OGLE-2015-BLG-0196: Ground-based Gravitational Microlens Parallax Confirmed by Space-based Observation*
Han, C., Udalski, A., Gould, A., and 22 coauthors including **Henderson, C. B.**, 2017, ApJ, 834, 82
31. *UKIRT Microlensing Surveys as a Pathfinder for WFIRST: The Detection of Five Highly Extinguished Low- $|b|$ Events*
Shvartzvald, Y., Bryden, G., Gould, A., **Henderson, C. B.**, Howell, S. B., Beichman, C., 2017, AJ, 153, 2
30. *The First Simultaneous Microlensing Observations by Two Space Telescopes: Spitzer & Swift Reveal a Brown Dwarf in Event OGLE-2015-BLG-1319*
Shvartzvald, Y., Li, Z., Udalski, A., and 96 coauthors including **Henderson, C. B.**, 2016, ApJ, 831, 183
29. *Is the Galactic Bulge Devoid of Planets?*
Penny, M. T., **Henderson, C. B.**, Clanton, C., 2016, ApJ, 830, 150
28. *Reverberation Mapping of Optical Emission Lines in Five Active Galaxies*
Fausnaugh, M. M., Grier, C. J., Bentz, M. C., and 68 coauthors including **Henderson, C. B.**, arXiv:1610.00008, submitted to ApJ
27. *OGLE-2015-BLG-0479LA,B: Binary Gravitational Microlens Characterized by Simultaneous Ground-based and Space-based Observations*
Han, C., Udalski, A., Gould, A., and 65 coauthors including **Henderson, C. B.**, 2016, ApJ, 828, 53
26. *Mass Measurements of Isolated Objects from Space-based Microlensing*
Zhu, W., Calchi Novati, S., Gould, A., and 78 coauthors including **Henderson, C. B.**, 2016, ApJ, 825, 60
25. *The Spitzer Microlensing Program as a Probe for Globular Cluster Planets: Analysis of OGLE-2015-BLG-0448*
Poleski, R., Zhu, W., Christie, G. W., and 89 coauthors including **Henderson, C. B.**, 2016, ApJ, 823, 63
24. *Spitzer Observations of OGLE-2015-BLG-1212 Reveal a New Path toward Breaking Strong Microlens Degeneracies*
Bozza, V., Shvartzvald, Y., Udalski, A., and 105 coauthors including **Henderson, C. B.**, 2016, ApJ, 820, 79
23. *Spitzer Parallax of OGLE-2015-BLG-0966: A Cold Neptune in the Galactic Disk*
Street, R. A., Udalski, A., Calchi Novati, S., and 107 coauthors including **Henderson, C. B.**, 2016, ApJ, 819, 93
22. *Planet Sensitivity from Combined Ground- and Space-based Microlensing Observations*
Zhu, W., Gould, A., Beichman, C., and 48 coauthors including **Henderson, C. B.**, 2015, ApJ, 814, 129
21. *Spitzer Microlens Measurement of a Massive Remnant in a Well-Separated Binary*
Shvartzvald, Y., Udalski, A., Gould, A., and 70 coauthors including **Henderson, C. B.**, 2015, ApJ, 814, 111

20. *Spitzer IRAC Photometry for Time Series in Crowded Fields*
Calchi Novati, S., Gould, A., Yee, J. C., and 24 coauthors including **Henderson, C. B.**,
2015, ApJ, 814, 92
19. *Criteria for Sample Selection to Maximize Planet Sensitivity and Yield from Space-Based Microlens Parallax Surveys*
Yee, J. C., Gould, A., Beichman, C., and 8 coauthors including **Henderson, C. B.**,
2015, ApJ, 810, 155
18. *OGLE-2011-BLG-0265Lb: a Jovian Microlensing Planet Orbiting an M Dwarf*
Skowron, J., Shin, I.-G., Udalski, A., and 121 coauthors including **Henderson, C.**,
2015, ApJ, 804, 33
17. *Reverberation Mapping of the Seyfert 1 Galaxy NGC 7469*
Peterson, B. M., Grier, C. J., Horne, K., and 43 coauthors including **Henderson, C. B.**,
2014, ApJ, 795, 149
16. *MOA-2011-BLG-262Lb: A Sub-Earth-Mass Moon Orbiting a Gas Giant Primary or a High Velocity Planetary System in the Galactic Bulge*
Bennett, D. P., Batista, V., Bond, I. A., and 97 coauthors including **Henderson, C. B.**,
2014, ApJ, 785, 155
15. *A Super-Jupiter Orbiting a Late-type Star: A Refined Analysis of Microlensing Event OGLE-2012-BLG-0406*
Tsapras, Y., Choi, J.-Y., Street, R. A., and 129 coauthors including **Henderson, C. B.**,
2014, ApJ, 782, 48
14. *MOA-2010-BLG-328Lb: A Sub-Neptune Orbiting very Late M Dwarf?*
Furusawa, K., Udalski, A., Sumi, T., and 123 coauthors including **Henderson, C. B.**,
2013, ApJ, 779, 91
13. *MOA-2010-BLG-311: A Planetary Candidate below the Threshold of Reliable Detection*
Yee, J. C., Hung, L.-W., Bond, I. A., and 129 coauthors including **Henderson, C. B.**,
2013, ApJ, 769, 77
12. *Microlensing Discovery of a Population of Very Tight, Very Low Mass Binary Brown Dwarfs*
Choi, J.-Y., Han, C., Udalski, A., and 127 coauthors including **Henderson, C. B.**,
2013, ApJ, 768, 129
11. *A Giant Planet beyond the Snow Line in Microlensing Event OGLE-2011-BLG-0251*
Kains, N., Street, R. A., Choi, J.-Y., and 128 coauthors including **Henderson, C.**,
2013, A&A, 552, 70
10. *The Structure of the Broad-line Region in Active Galactic Nuclei. I. Reconstructed Velocity-delay Maps*
Grier, C. J., Peterson, B. M., Horne, K., and 38 coauthors including **Henderson, C. B.**,
2013, ApJ, 764, 47
9. *MOA-2010-BLG-523: “Failed Planet” = RS CVn Star*
Gould, A., Yee, J. C., Bond, I. A., and 122 coauthors including **Henderson, C. B.**,
2013, ApJ, 763, 141
8. *A New Type of Ambiguity in the Planet and Binary Interpretations of Central Perturbations of High-magnification Gravitational Microlensing Events*
Choi, J.-Y., Shin, I.-G., Han, C., and 123 coauthors including **Henderson, C.**,
2012, ApJ, 756, 48
7. *MOA-2011-BLG-293Lb: A Test of Pure Survey Microlensing Planet Detections*
Yee, J. C., Shvartzvald, Y., Gal-Yam, A., and 77 coauthors including **Henderson, C.**,
2012, ApJ, 755, 102

6. *Characterizing Low-mass Binaries from Observation of Long-timescale Caustic-crossing Gravitational Microlensing Events*
Shin, I.-G., Han, C., Choi, J.-Y., and 124 coauthors including **Henderson, C.**,
2012, ApJ, 755, 91
5. *Reverberation Mapping Results for Five Seyfert 1 Galaxies*
Grier, C. J., Peterson, B. M., Pogge, R. W., and 40 coauthors including **Henderson, C. B.**,
2012, ApJ, 755, 60
4. *MOA 2010-BLG-477Lb: Constraining the Mass of a Microlensing Planet from Microlensing Parallax, Orbital Motion, and Detection of Blended Light*
Bachelet, E., Shin, I.-G., Han, C., and 144 coauthors including **Henderson, C. B.**,
2012, ApJ, 754, 73
3. *Characterizing Lenses and Lensed Stars of High-magnification Single-lens Gravitational Microlensing Events with Lenses Passing over Source Stars*
Choi, J.-Y., Shin, I.-G., Park, S.-Y., and 154 coauthors including **Henderson, C. B.**,
2012, ApJ, 751, 41
2. *Additional Massive Binaries in the Cygnus OB2 Association*
Kiminki, D. C., Kobulnicky, H. A., Ewing, I., and 6 coauthors including **Henderson, C. B.**,
2012, ApJ, 747, 41
1. *A Reverberation Lag for the High-ionization Component of the Broad-line Region in the Narrow-line Seyfert 1 Mrk 335*
Grier, C. J., Peterson, B. M., Pogge, R. W., and 37 coauthors including **Henderson, C. B.**,
2012, ApJ, 744, 4